REMARKS/ARGUMENTS

Claims 38-74 are pending in this application. Claims 38-48 and 70-73 are rejected, claims 70-73 are objected to, and claims 49-69 and 74 are allowed. By this Amendment, claims 38, 43, 65, 67, 68, and 70-73 have been amended. In view of the amendments and remarks set forth below, Applicants respectfully submit that each of the pending claims is in condition for immediate allowance.

Specification

Applicants note that the Examiner has included guidelines for the preferred layout of the specification. In the Preliminary Amendment submitted September 23, 2005, headings were added to the present disclosure. Thus, Applicants note that the preferred layout for this specification has been met.

Claim Objections

Claims 70-73 are objected to for their use of the term "leaktight." Applicants have replaced the term "leaktight" with "leak-tight" as suggested by the Examiner. Withdrawal of the objection is therefore requested.

Rejections Under 35 U.S.C. §112

The Examiner rejected claims 38-48 and 70-73 under 35 USC §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention.

Claims 38-48 recite "an underwater depth." The Examiner asserts that this is unclear because "no underwater depth or range of underwater depths has been defined." (Office Action at p. 3, numbered par. 7). Applicants respectfully submit that this limitation does not lack clarity. The underwater depth is the depth at which said buoyancy fluid is in an entirely liquid state. As defined

in claim 38, the underwater depth is the depth or deeper than the depth at which the buoyancy fluid is naturally in a stable liquid state. Thus, Applicants respectfully submit that "underwater depth" is not indefinite and respectfully request that the rejections under 35 USC §112, be withdrawn.

In accordance with the Examiner's remarks, Applicants have amended the claims to provide antecedent basis for those limitations where antecedent basis was lacking. Applicants note that "the bottom portion," which Examiner noted as lacking antecedent basis, (see numbered paragraph 10 on page 3 of the Office Action) has antecedent basis in claim 70 at line 10. Therefore, in light of the amendments, and remarks above, withdrawal of the rejections under 35 USC §112 is requested.

Prior Art Rejections

Claims 38-45, 47, and 48 stand rejected under 35 USC §103(a) as being unpatentable over U.S. Patent No. 4,183,316 ("Bennett"). Applicants respectfully request reconsideration and withdrawal of this rejection.

To establish a *prima facie* case of obviousness, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify a reference or combine references to arrive at the claimed subject matter. The prior art references must also teach or suggest all the limitations of the claim in question. See, M.P.E.P. § 706.02(j). A reference can only be used for what it clearly discloses or suggests. In re Hummer, 113 U.S.P.Q. 66 (C.C.P.A. 1957); In re Stencel, 4 U.S.P.Q.2d 1071, 1073 (Fed. Cir. 1987). Here, the references, whether taken individually or in combination, do not disclose or suggest the invention claimed by the Applicant.

Among the limitations of independent claim 38 not present in Bennett is

> a buoyancy fluid having a density that is less than that of sea water, the buoyancy fluid confined in and entirely filling said casing,

> wherein said buoyancy fluid is a quasi incompressible fluid and ... naturally in an entirely liquid state at an underwater depth to which said buoyancy element is immersed.
>
> (Claim 38, emphasis added).

Bennett, the sole reference applied by the Examiner, is directed to an apparatus for controlling the depth of an object submerged in a liquid medium such as sea water (Abstract, lines 1-2). The apparatus includes a sealed chamber 14 in which a working fluid 16 is retained. Bennett describes working fluid 16 as of one of three types:

1. "[A] fluid which is expandable when it is heated and contractable when it is cooled . . . [for example] a gaseous fluid such as nitrogen or a noble gas such as argon." (col. 3, lines 2-5).
2. "[A] two-state working fluid . . . which has a liquid component 32 and a gaseous component 34. The working fluid could comprise a single fluid which is maintained partially in a liquid state and partially in a gaseous state while object 10 is submerged." (col. 4, lines 33-37). Bennett identifies suitable fluids as water or freon. (col. 4, line 41).
3. "[T]he working fluid . . . could comprise a mixture of two fluids having different boiling points, one fluid being partially dissolved in the other." (col. 4, lines 55-57). Bennett offers ammonia dissolved in water as the sole example of this embodiment. (col. 4, lines 58-62).

Initially, Applicants note that claim 38 has been amended to explicitly recite "the buoyancy fluid entirely filling said casing" and that the "buoyancy fluid is a quasi incompressible fluid." These two features are not disclosed in any of the three working fluids of Bennett discussed above.

In each embodiment of Bennett, the working fluid is both compressible and in a combined fluid and gaseous state. Thus, for at least this reason, claims 38-45, 47, and 48 are allowable.

Further, the Examiner admits that "Bennett does not explicitly disclose that the buoyancy fluid is naturally in a gaseous state at ambient atmospheric temperature and pressure, and naturally in an entirely liquid state at the underwater depth to which the buoyancy element is immersed, nor does Bennett explicitly disclose the compressibility, depth limitations or the specific fluid characteristics recited." (Office Action, page 4, paragraph 14).

To support the limitations acknowledged as missing from Bennett, the Examiner turns to Applicants' own Specification, specifically paragraphs [0022] and [0023] as published. Paragraphs [0022] and [0023] appear under the heading "Objects and Summary of the Invention." Thus, the Examiner is using the Applicants' own invention, as disclosed in its present specification, to reject the pending claims. Combining the teachings of Bennett, which are admittedly lacking, with Applicants' invention as disclosed in the Object and Summary of the Invention section of the subject application is impermissible hindsight reconstruction. (See MPEP §2141.01).

The Examiner's conclusion of obviousness is based on improper hindsight reasoning. In the present case, the rejection does not rely on knowledge, which was within the level of ordinary skill in the art at the time the claimed invention was made, but relies on knowledge obtained from Applicants' disclosure. Such a reconstruction is improper. (In re McLaughlin, 443 F.2d 1392, 1395, 170 USPQ 209, 212 (CCPA 1971)).

Thus, Applicants respectfully submit that for at least the reasons discussed above, a *prima facie* case of obviousness has not been made.

Claims 39-48 depend from, and contain all the limitations of claim 38. These dependent claims also recite additional limitations which, in combination with the limitations of claim 38, are

neither disclosed nor suggested by Bennett and are also directed towards patentable subject matter. Thus, claims 39-45, 47, and 48 should also be allowed.

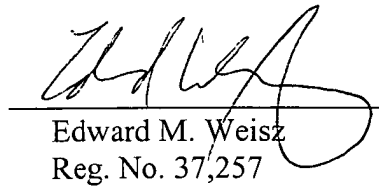
Claim 46 stands rejected under 35 USC §103(a) as being unpatentable over Bennett in view of U.S. Patent No. 6,772,705 ("Leonard"). Leonard was not added to cure the deficiencies of Bennett but to show additional limitations, which, even if it was to show, fails to cure the deficiencies discussed above. As such, Applicants respectfully submit that the claims are allowable over the cited references.

Applicants have responded to all of the rejections and objections recited in the Office Action. Reconsideration and a Notice of Allowance for all of the pending claims are therefore respectfully requested. If the Examiner believes an interview would be of assistance, the Examiner is encouraged to contact the undersigned at the number listed below.

It is believed that no additional fees or charges are required at this time in connection with the present application. However, if any fees or charges are required at this time, they may be charged to our Patent and Trademark Office Deposit Account No. 03-2412.

Respectfully submitted,

COHEN PONTANI LIEBERMAN & PAVANE LLP

By 

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